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of time (TS) is not more than a predetermined threshold time interval (THR) before said current point of time (GT)..

<sup>6</sup>  
~~24.~~ Bandwidth determining apparatus according to claim ~~23~~<sup>5</sup> wherein the decision apparatus determines that the currently used bandwidth (CCR) is zero if the stored most recent point of time (TS) is more than the predetermined threshold time interval (THR) before said current point of time (GT).

<sup>7</sup>  
~~25.~~ Bandwidth determining apparatus according to claim ~~23~~<sup>5</sup> wherein the value of the predetermined threshold time interval (THR) is stored.

<sup>8</sup>  
~~26.~~ Bandwidth determining apparatus according to claim ~~23~~<sup>5</sup> wherein the measuring apparatus measures a currently used bandwidth (CCR) on a plurality of connections to a same network switch.

REMARKS

Claims 1-18 have been rejected under 35 U.S.C. §112 as being indefinite. New Claims 19-26 have been substituted to place the claims in better form.

Claims 1-18 also have been rejected under 35 U.S.C. § 103 as being unpatentable over YAMATO in view of MISHRA.

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The new claims also better point out and more particularly define the invention.

The present invention pertains to the determination of the current bandwidth being actually used by one or all of the connections to a network switch in a cell-based information transmitting system, such as an ATM system. Such a switch always has a maximum average bandwidth that it can handle. Once the bandwidth that is actually being used currently at the switch has been determined, the switch uses this current bandwidth load to make decisions with respect to bandwidth allocations and permissions given to links using or wanting to use the switch. There are many ways that the currently used bandwidth determination can be used by the switch. This invention is not concerned with the use made of this actually used bandwidth information, but rather merely the technique and apparatus for making the used bandwidth determination. The applied references, on the other hand, are concerned only with the control system use of this actually used bandwidth information and not with the method or apparatus used to make the actually used bandwidth determination.

With respect to YAMATO, the Examiner points to the parameter calculation unit 13 as performing the claimed function. YAMATO does not actually define what **parameter** is being calculated by unit 13. Obviously the Examiner

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assumes that the parameter being calculated is actually used bandwidth. This is a reasonable possibility, but there are other possibilities as well.

The specification merely describes what is done with this undefined parameter once it has been calculated. The parameter, for example, might be the buffer load in the switch (i.e., the percentage of the maximum buffer capacity that is being used at the present time). While the buffer load is affected by the actually used bandwidth when it becomes high enough, it is also affected by bursty sources, even when the actually used bandwidth is not very high. If the parameter calculation unit is measuring buffer load, there would in such a case not be a counting of arriving cells (units) at all. If the Examiner believes that YAMATO describes a counting of arriving units, a particular citation would be appreciated.

However, even assuming that the YAMATO parameter calculation unit is actually counting arriving units at a "certain point" of a connection, still there is no description of how such counting is being done. Prior art methods for performing such counting are disclosed in the specification. YAMADA does not teach away from using such a prior art counting method if counting is done at all.

The claims clearly define that a predetermined number (M) of units are counted and that the time period (arrival

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period) taken to count such M units (ET) is determined and stored along with the time (GT) when this arrival time period ended. At a later arbitrary point of time (now more particularly called the current time in the claims), a determination of actually used bandwidth is made by dividing M by ET. A condition is imposed, however. The stored latest ET must be sufficiently current. This is determined from the stored time GT and a threshold value THR. If the latest period of measurement ET was stored not earlier than THR before the current time, then the calculation of actually used bandwidth is valid and is used as the actually used current bandwidth. If the stored time GT is older (more than THR before the current time), then the assumed actually used current bandwidth is zero. YAMATO fails to describe any details as to how the actually used bandwidth is calculated (if indeed such a calculation is being made at all), much less the particularly claimed method.

The Examiner apparently recognizes that YAMATO fails to describe a threshold time interval THR in such a calculation and cites MISHRA. MISHRA does describe a threshold time interval, but the described threshold time interval is not being used to determine whether units counted during a measured past completed counting interval will be used to determine actually used bandwidth. MISHRA

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uses the threshold time interval to determine instead whether a source is active or idle. What is being thresholded is not the time since a counting period ended as claimed, but rather the time since a cell was received from a particular source. This is not the same thing.

In the claimed invention, cells might be arriving at the connection when a current actually used bandwidth determination is being made. The claimed threshold is not used to determine whether no cells have arrived during the threshold period, but rather to determine whether a counting period has been completed during the threshold period.

#### CONCLUSIONS

It is believed that all of the pending claims fully meet all of the requirements of 35 U.S.C. § 112 and also distinguish readily over all of the cited art, when taken individually and in combination. Accordingly, allowance of the pending claims is believed to be in order and is respectfully solicited.

Respectfully submitted,



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